MODIS Technical Team Meeting
Thursday, April 24, 2003
Building 33, Room E125

Vince Salomonson chaired the meeting. In attendance were Dorothy Hall, Wayne Esaias, Shaida Johnston, Jack Xiong, Ed Masuoka, Gerhard Meister, Robert Wolfe, and Steve Kempler, with Yolanda Harvey taking the minutes.

1.0 Upcoming events

- IGARSS 2003, July 21-25, 2003, Toulouse, France (abstracts deadline past). http://www.igarss03.com/
- 10th International Symposium on Remote Sensing by The International Society for Optical Engineering (SPIE). September 8-12, 2003, Barcelona, Spain (abstracts deadline past). http://www.spie.org/info/rs

2.0 Meeting Minutes

2.1 General Discussion
Salomonson reported that he is working on the Team Leader proposal. It is due May 14

2.2 Instrument Status
Xiong reported on the Oceans data reprocessing effort. He said that he was asked to produce all measured m1s and send them to Miami. MCST will be delivering a LUT to Miami as well by April 30, 2003, which will cover data from November 30, 2000 forward. Johnston asked if the residual RVS is already being compensated for at Miami, and Xiong said MCST will not include RVS in this delivery and Miami will take care of the needed correction. They have not yet incorporated data from the Deep Space Maneuvers (DSM).

2.2.1 Aqua MODIS
On Aqua, Xiong reported that the command-drop patch software was uploaded on April 15, 2003, the day after the second DSM. MCST successfully completed the SRCA crosstalk test, though after the second test a couple of problems occurred. On the April 22, 2003, test, they were in the process of redefining a sector start location (by updating through a LUT), but accidentally used a Terra LUT instead of the correct Aqua LUT, which caused a shift in data of about 10 frames in the earth view sector. SD had only 5 frames; the other 45 frames were taken by SRCA sector. Wolfe is working on understanding the impact on geolocation. The correct LUT was uploaded on April 23, 2003, at 7 pm. The second problem was a phase delay for the SRCA starting time, which had no impact, but was corrected. The exact times of data shifts caused by the misloaded LUT will be updated to the MCST website (15:18 GMT, April 22nd to 21:32 UTC, April 23rd, 2003).

Xiong reported on the m1 calculation's relationship to the along-track geometric registration. After a change in the Aqua geolocation LUT that corrected for an along-track misregistration, Xiong noticed a jump in sun azimuth and zenith angles of the solar diffuser. This caused a small but significant change in the m1 calculation. Similar but smaller changes have been made in the past to both the Terra and Aqua geometric LUTs but their impact on the m1 calculation were small enough that they were not apparent. Xiong said that they understand the problem, and they are working on options that

would allow them to avoid making changes to the geolocation (MOD03) products or code. Johnston agreed that we should avoid making unnecessary changes that impact downstream users. Xiong is also reanalyzing past m1 calculations based on the Aqua and Terra geolocation LUT update history.

2.2.2 Terra MODIS

Xiong reported that the second DSM was successful, and everything had returned to normal operation by 16 hours after the maneuver's end. They have derived RVS from the DSMs, are comparing them to the original RVS data, and have an ongoing test to compare Terra RSB calibration with the SeaWiFS using the maneuver with lunar view. Meister said that the SeaWiFS team is currently determining the exact pitch rate of SeaWiFS during its lunar maneuver. Johnston asked why the SeaWiFS pitch rate is unknown, and Meister said that SeaWiFS does not have a separate pitch rate sensor. SeaWiFS uses the horizon to determine the pitch rate, and when it looked at the Moon, there was no horizon to use as a reference, hence the uncertainty.

2.3 DAAC

Kempler reported that while he was working on updating the DAAC's metrics tables, he found that orders for MODIS data have quadrupled in the last year, the number of granules in the DAAC has gone up, and the overall volume has stayed the same (which is good).

Kempler reported putting in the new version of ECS (version 6.807?), which will help the Data Pool to run easier. The DAAC was down about 18 hours, and they are still working on fixing a few issues. He also reported that they will be making some changes in the data pool to make getting data out a little easier, and were developing ideas on how to do these things. He said they expect the PDR server to be a problem in the future, and so they are working on figuring ways around this and other issues.

2.4 MODAPS

Masuoka noted that pulling data from the pools has not gone fast in the past so he is studying the situation. As for processing Oceans data in July, this would normally go through the PDR server, but it might help if the data could come out of the data pool.

Masuoka reported that they took 60 million records out of the database, which has made the database a bit faster. They do this at the end of each month to keep performance up.

2.5 Oceans Discipline

Esaias reported that he attended a very successful Oceans meeting in Miami, which was attended by Chuck McClain, Gene Feldman, some DAAC people, Bob Evans, Eddie Kerns, Shaida Johnston, and a number of others. At the meeting they met with the user community on how to do reprocessing, what changes and time periods are important, reducing product volume, and they also talked a lot about MODIS/SeaWiFS comparisons. Since that meeting, they've had a series of teleconferences (including one on this date, April 24, 2003), in which they responded to a number of questions, including what gets reprocessed and when, what milestones to set, interfaces with the DAAC (and why it can't be done sooner). The bottom line was that everyone seemed satisfied. They've been happy with the tests and analyses, and want to have another telecon in two weeks. Salomonson asked if reprocessing would start July 7, 2003, and end in late October, and

Esaias said yes. The forward stream data version numbers will always end with a 0, that way the user can tell if its been modified. They've been getting excellent cooperation from the Goddard people, Miami, etc.

Esaias said that in the future some files will be reduced in size, and some products will be discontinued/deleted. Masuoka suggested doing some tests. Esaias reported that they are making progress. NASA HQ wants a reliable climate-quality data set out as soon as possible, and October (when the reprocessing completes) will be a good time to release it, since proposal announcements should happen then.

Esaias noted that ocean color is being taken as a pathfinder for climate data records from EOS, and he would like to get MODIS settled before we start doing comparisons. MODIS and SeaWiFS are very different instruments, but we still have to do some comparisons.

Esaias said that in order to do this volume of file reductions, a lot of the QC files were going to be deleted which caused some concern because a lot of people use those ancillary files. They decided not to delete them from the DAAC after all, so won't be deleting them from the DAAC. There was also a suggestion to leave the earlier Collection 4 QC files and delete the newer ones. Wolfe noted that that would be messy and would be confusing to the end-users. Masuoka said that they might be able to work it out.

2.6 Atmospheres Discipline

King reported that Atmospheres is about halfway through reprocessing according to the latest calendar he has. He asked if Hucek said they could be finished by the end of July 2003, and Masuoka said yes, that is possible. King said that so far the data quality look good, as does the reprocessing speed. This collection is much improved over earlier ones.

King noted that he is supposed to go to Alaska to give a talk on MODIS, and found out that a lot of the featured speakers can't attend, so he's not sure how the meeting will go. He knows that Mous Chahine will attend, though. He asked that if anyone has movies, animations, or images for him to show that would relate to Alaska, please let him know. Hall said that she would send him some snow and sea ice stuff, and Esaias said that he has an Oceans primary productivity movie that could be shown. There are also a lot of relevant images on Earth Observatory (http://earthobservatory.nasa.gov/). Salomonson suggested some material from Rapid Response might be included, and that King could talk about how the Alaska users could *get* MODIS data. They would probably be pretty interested in Land data. King said that he would also be giving another talk on Visible Earth and the Earth Observatory, and though he will strive for balance, will probably have to focus mainly on land data.

2.7 Cryosphere

Hall reported that George Riggs delivered the snow albedo algorithm code to SDST this morning, and it will be going into testing. This is good news, because they've been working on the coding for this algorithm for the last year or so. The National Ice Center wants to get the MOD29 sea ice products possibly through the NOAA "bent pipe." Bruce Ramsay told Hall that the products should be available that way by this summer.

3.0 Action Items

3.1 New Action Items
None.

3.2 Old Action Items
3.2.1 King and Kempler to work together on getting ESDTs for the new Atmospheres L2 data product.
Status: Open.

3.2.2 Kempler to coordinate with Oceans group on creating documentation for the DAAC on the new Oceans L1A data subsets.
Status: Open.

3.2.3 Wolfe to contact Herring about the shopping cart feature for the Earth Observatory website.
Status: Open.

3.2.4 Tech Team to further discuss TRW using MODIS data for validation of the NPP/NPOESS production process.
Status: Open.

3.2.5 Johnston to create possible scenarios of when to reprocess Aqua and start Terra Collection 5.
Status: Open.

3.2.6 Conboy to poll Science Team for MODIS Science Team Meeting dates in August/September 2003. Responses due to Conboy by April 7, 2003.
Status: Open.